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UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Hoang M. Nguyen

Art Unit: 3748

In re:

Applicant(s): Levitin, et al.

Serial No.: 09/808,962

Amendment

Honorable Commissioner
Of Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

In response to the Office Action, we submit the following
amendment for claims 1-8 of the application:

“METHOD OF RUNNING A CONDENSER
FOR LIQUIDATION OF STEAM OR VAPOR”

Mikhail Levitin

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The last Office Action has been carefully considered.

After carefully considering the Examiner's grounds for the rejection of the claims on formal grounds, Applicants have substantiated claims 1-8 in formal aspects.

It is believed that the grounds for the formal objections are therefore eliminated.

I. Arguments

It is respectfully submitted that claims 1-8 should be considered as patentably distinguishable with respect to the art and should be allowed.

1. The unique innovative feature of our invention is the idea to supply intermittent quantities of condensing matter (steam or vapor) rather than continuous. In addition, the flow of steam or vapor is staggered such that successive portions are supplied after the previous quantity of steam or vapor has condensed. When each successive condensation is completed there is a drop in the pressure or temperature of the condensing matter (steam or vapor) on the supply line to or on the discharge line from the condenser. The advantage of this solution is in the effective condensation of steam or vapor on the thermo-exchange surface when it becomes free of condensate. Also the control and maintenance of the system is significantly simplified. That is why the cited US Patent 5,005,351 by Archer is irrelevant to ours. Archer's system regulates the supply of cooling (but not the condensing) matter. Therefore it is impossible to provide condensation of steam or vapor on a free from condensate thermo exchange surface by regulation of the pump, which is sucking out condensate from a

condenser and thereby increasing the efficiency of the condenser cannot be achieved. If the output of condensate is not complete when the input of condensing matter is continuous, then liquid condensate can fill up an inner part of the condenser that has thermo exchange tubes and can destroy the condenser by increasing the inner pressure of the condenser and the temperature of the condensate due to a reduction of the thermo exchange surface of the condenser. In conclusion, the method of controlling the supply of cooling matter through the regulation of the pump that is sucking out a condensate from the system does not conflict with the present invention. The goal of the presented invention is to ensure the smooth uninterrupted work of the condenser.

It is a known fact that control of the parameters of the condensing matter has been used to provide normal work for a condenser. The new idea is to use the parameters to provide a pulse supply of the condensing matter into a condenser, with a new portion being sent to the condenser when the previous portion of the condensing matter is already condensed.

2. As opposed to our invention, U.S. Patent 5,385,202 by Drosdziok relates to an invention that includes measurement and analysis parameters of the cooling system. According to the above explained reasons US Patent 5,385,202 diverges from our technical solution.

3. As opposed to our invention, U.S. Patent 5,488,828 by Brossard relates to inventions that include measurement and analysis of parameters of already

condensed matter which is transferred to the turbine to produce electricity.

According to the above explained reasons in paragraph 1, US Patent 5,488,828 diverges from our technical solution.

4. As opposed to our invention, U.S. Patent 5,471,622 by Kuwahara relates to inventions pertaining to the performance of the evaporator rather than the performance of the condenser, as in our system. According to the above explained reasons, US Patent 5,471,622 diverges from our technical solution.

5. As opposed to our invention, U.S. Patent 5,485,754 by Harpster relates to systems that measure the flow of air and water vapor within a vacuum. According to the above-explained reasons, US Patent 5,485,754 diverges from our technical solution.

6. U.S. Patents 4,193,781 , 4,753,077 , 5,079,929 , and 1,296,412 diverge from our technical solution by reasons mentioned in paragraph 1.

U.S. Patent 4,193,781 uses the system of controlling the flow of the condensing matter and condensate to achieve minimum possible pressure of refrigerant vapor when the condenser is in use and maximum possible pressure of the vapor when the evaporator is liquidated. This system uses the process of bypassing a condenser with condensing matter or redirecting the condensing matter to a special cooling device.

U.S. Patent 4,753,077 uses a valve on the line supplying condensing matter and a controlling system to bypass a condenser when parameters of the cooling matter fall below the minimum levels that are necessary for normal

working conditions in the condenser.

U.S. Patent 5,079,929 uses multiple controllers, measuring different parameters of the system. This system does not control the supply of the condensing matter to the condenser but controls only a supply of the condensate to the receiver.

U.S. Patent 1,296,412 uses an automatic valve on the supplying line to provide a vapor supply from the supporting system to the condenser when the main system does not provide a supply of vapor. When the main system is not working the supporting system sends the vapor to the ambient environment. In addition, the valve cannot provide the supply of vapor to the condenser in impulse regimen because when permanent supply of vapor from the main system to the condenser occurs the valve is open.

In summary, we propose a new and very effective way of increasing an efficiency of a condenser, and a way to control the cooling process in which all of the elements that involved in the process are connected with each other. They cannot be analyzed separately as the respectful examiner is trying to do. Some of the individual technical solutions have been used in other inventions, but were used for achieving absolutely different goals in the other inventions.

II. Applicants made necessary corrections to the application in compliance with the formal objections in order for the application to be accepted.

The following corrections should be done for clarity's sake in the section

“What is claimed”:

1. [The] A method of running a condenser for liquidation of steam or vapors having pipes and which are connected to the steam or vapor input line and to the line discharging condensation from said condenser, a controlling device installed on said steam or vapor input line, a pressure controller connected by a link to said steam or vapor input line and electrically connected to said controlling device, said method consisting of the repeating in cycles in the following steps:

- [closing] close [a] said controlling device when pressure of the steam or vapor in said steam or vapor input line is reduced;
- open said controlling device when pressure of steam or vapor in said steam or vapor input line is increased;
- input a portion of steam or vapor into condenser through open said controlling device.

2. A condenser for liquidation of steam or vapors having pipes and connected to a steam or vapor input line and a line discharging off condensation from said condenser, a controlling device installed on said steam or vapor input line, a pressure controller [connected by a link] while said pressure controller is connected to said steam or vapor input line, a pressure controller to said steam or vapor input line and electrically connected to said controlling device.

3. [The] A method of running a condenser for liquidation of steam or vapors, said condenser having [nipples] pipes and [connecting] connected to a steam or vapor input line and to a line discharging off condensation from said condenser, a

controlling device installed on said steam or vapor input line, a temperature controller connected by a link to said steam or vapor input line and electrically connected to said controlling device, said method consisting of the repeating in cycles following steps:

- [closing] close [a] said controlling device when temperature of the steam or vapor is reduced in the steam or vapor input line,
- [opening] open [a] said controlling device when temperature of steam or vapor [pressure] is increased in the steam or vapor input line.
- input a portion of steam or vapor into condenser through said open controlling device.

4. A condenser for liquidation of steam or vapors having [nipples] pipes and connected to a steam or vapor input line and to a line discharging condensation from said condenser, a controlling device installed on said steam or vapor input line, a temperature controller connected by a link to said steam or vapor input line and electrically connected to said controlling device.

5. [The] A method of running a condenser for liquidation of steam or vapors having pipes and [connecting] connected to steam or vapor input line and to a line discharging condensation from said condenser, a controlling device installed on said steam or vapor input line, a pressure controller connected by a link to said line discharging condensation from said condenser and electrically connected to said controlling device, said method consisting of repeating in cycles the following steps:

- [closing] close [a] said controlling device when pressure of the steam or

vapor is increased in said line discharging condensation from said condenser;

- [opening a] open said controlling device when pressure of steam or vapor is reduced in said line discharging condensation from said condenser;
- input a portion of steam or vapor into condenser through said open controlling device.

6. A condenser for liquation of steam or vapors having pipes and connected to a steam or vapor input line and to a line discharging condensation from said condenser, a controlling device installed on said steam or vapor input line, a pressure controller connected by a link to said line discharging condensation from said condenser and electrically connected to said controlling device.

7. [The] A method of running a condenser for liquidation of steam or vapors, said condenser having pipes and which is also connected to a steam or vapor input line and to a line discharging condensation from said condenser, a controlling device installed on said steam or vapor input line, a temperature controller connected by a link to said line discharging condensation from said condenser and electrically connected to said controlling device, said method consisting of repeating in cycles the following steps:

- [closing] close [a] said controlling device when temperature of condensate [in said line discharged condensate from said condenser is increased] is increased in said line discharging condensation from said condenser;
- [opening] open [a] said controlling device when temperature is reduced in

said line discharging condensation from said condenser;

- input a portion of steam or vapor into condenser through open said controlling device.

8. A condenser for liquidation of steam or vapors having pipes and connected to a steam or vapor input line and a line discharging condensation from said condenser, a controlling device installed on said steam or vapor input line, a temperature controller connected by a link to said line discharging condensation from said condenser and electrically connected to said controlling device.

In order to arrive at claims 1-8 of the present invention the references have to be fundamentally modified.

However, it is known that in order to arrive at a claimed invention by modifying the references the cited art must itself contain a suggestion for such a modification.

This principle has been consistently upheld by the U.S. Court of Customs and Patent Appeals such as in the decision in Randol and Redford (165 USPQ 586) that:

Prior patents are references only for what they clearly disclose or suggest; it is not a proper use of a patent as a reference to modify its structure to one which prior art references do not suggest.

Also, the present invention provides for highly advantageous results. It is well known that in order to support a valid rejection the art must also suggest that it would accomplish applicant's results. This was stated by the Patent Office

Board of Appeals, in the case Ex parte Tanaka, Marushima and Takahashi (174 USPQ 38) as follows:

Claims are not rejected on the ground that it would be obvious to one of ordinary skill in the art to rewire prior art devices in order to accomplish applicants' result, since there is no suggestion in prior art that such a result could be accomplished by so modifying prior art devices.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be amended or corrected in formal respects in order to place this case in condition for final allowance, then it is respectfully requested that such amendments or corrections be carried out by Examiner's Amendment and the case be passed to issue. Any cost involved should be charged to the deposit account of the undersigned.

Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case, he is invited to telephone the undersigned at: 570-620-1024 or 570-620-2017.

Respectfully submitted,

Mikhail Levitin